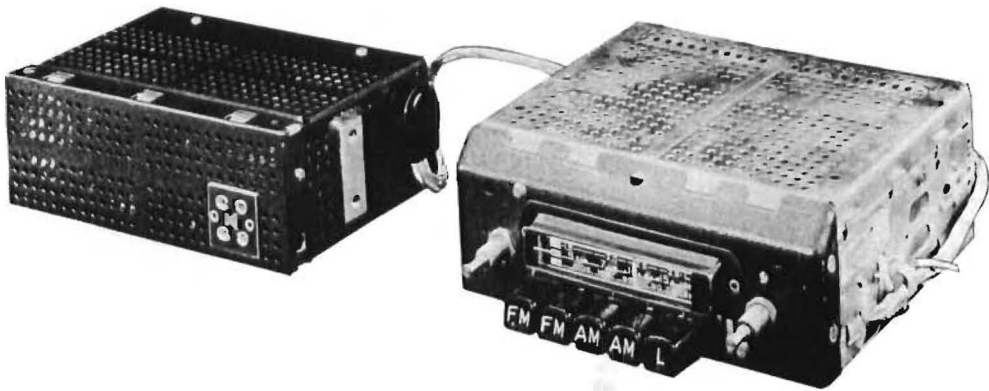




BLAUPUNKT MODELS
Frankfurt 12V, Frankfurt 6V



BLAUPUNKT MODELS
Frankfurt 12V, Frankfurt 6V

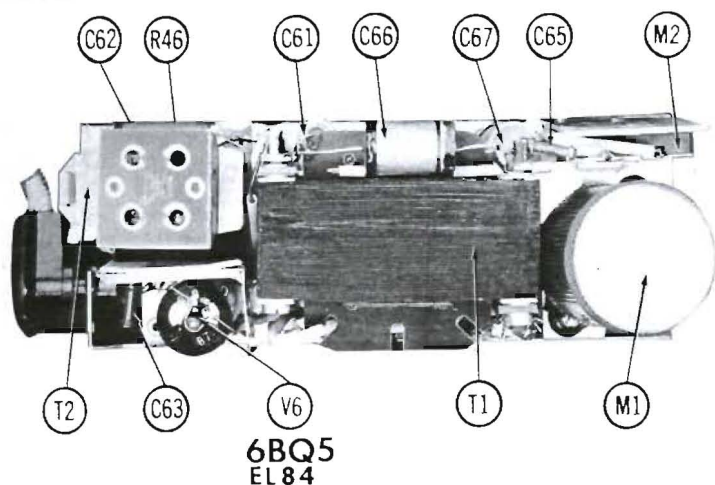
TRADE NAME	Blaupunkt Model Frankfurt		
SUPPLIER	Robert Bosch Corp., 40-25 Crescent St., Long Island City 1, N. Y.		
TYPE SET	Battery Operated Universal Type FM-BC-LW Automobile Receiver		
TUBES (Six)	Types 6AQ8/ECC85 FM RF Amp. -FM Conv., EF89 1st FM IF Amp. -AM RF Amp., 6AJ8/ECH81 2nd FM IF Amp. -AM Mixer-AM Osc., EF89 3rd FM-1st AM IF Amp., 6T8/EABC80 Ratio Det. -AM Det. -AVC-AF Amp., 6BQ5/EL84 Output		
POWER SUPPLY	12 Volt Storage Battery (12 Volt version) 6 Volt Storage Battery (6Volt versions)	RATING 3.8 Amp. @12.6 Volts DC 7.6 Amp. @6.3 Volts DC	
TUNING RANGE	BROADCAST 550-1600KC FREQ. MOD. 88-105MC	LONG WAVE 150-300KC	
PUSHBUTTON ADJUSTMENT			
NOTE: Pushbuttons can only be adjusted for the band designated on the button.			
1. Allow receiver to warm up. Extend antenna.		3. Tune manually to desired station.	
2. Pull pushbutton out.		4. Press pushbutton in firmly.	

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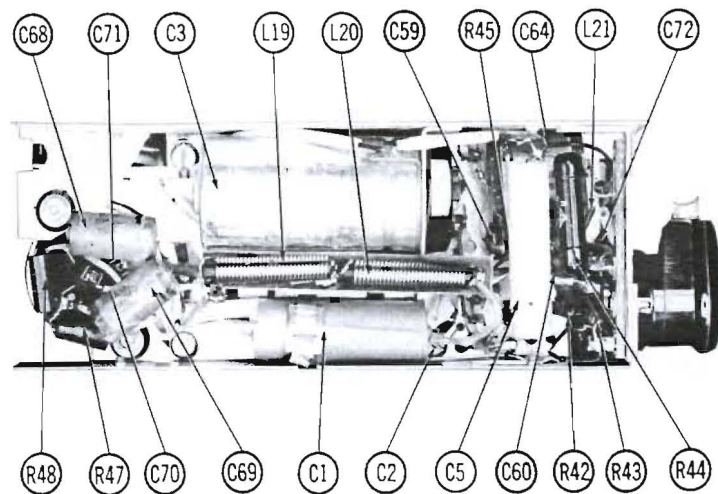
The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of

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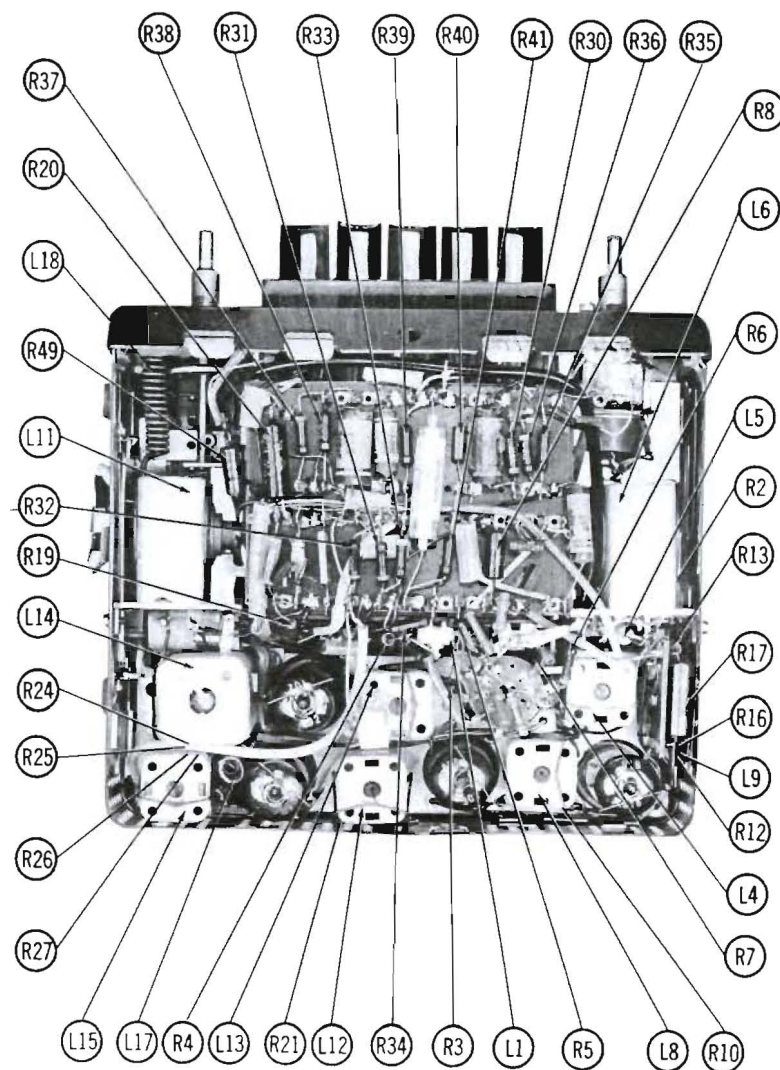
Page 3



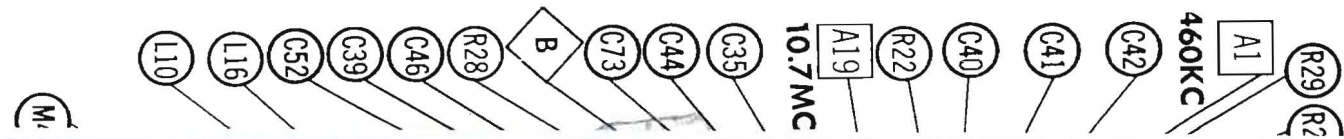
POWER SUPPLY CHASSIS-TOP VIEW

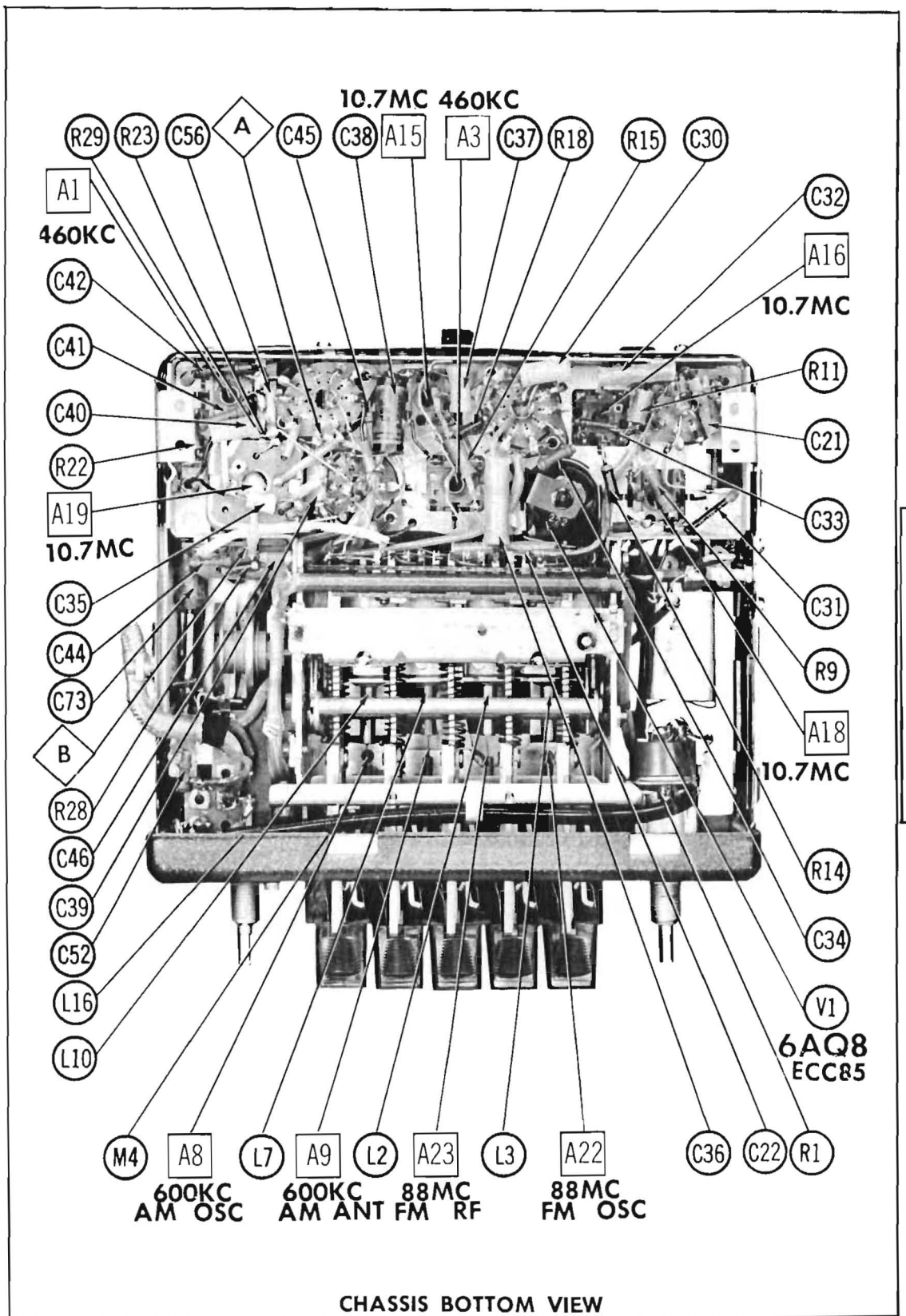


POWER SUPPLY CHASSIS-BOTTOM VIEW



CHASSIS TOP VIEW-RESISTOR AND INDUCTOR IDENT





Frankfurt 12V, Frankfurt 6V

FOLDER 7

ALIGNMENT INSTRUCTIONS

AM ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1. .05mfd	High side to pin 2 (grid) of ECH81 (V3). Low side to chassis.	480KC (400% Mod)	AM	550KC	Across Voice coil	A1, A2 A3, A4	Adjust for maximum output
2. Fig. 1	Thru dummy to antenna receptacle.	480KC	AM	550KC	Across Voice coil.	A5	Adjust for MINIMUM output
3. Fig. 1	Thru dummy to antenna receptacle.	1810KC	AM	Tuning gang fully open.	Across Voice coil	A8	Adjust for maximum output
4. Fig. 1	Thru dummy to antenna receptacle.	1400KC	AM	1400KC	Across Voice coil.	A7	Adjust for maximum output
5. Fig. 1	Thru dummy to antenna receptacle.	600KC	AM	600KC	Across Voice coil	A8, A9	Adjust for maximum output
6. Fig. 1	Thru dummy to antenna receptacle.	200KC	LW	200KC	Across Voice coil	A10, A11	Adjust for maximum output

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

Connect two matched 100K ($\pm 5\%$) resistors in series from point A to chassis. The junction of these two resistors is alignment point B as shown on the schematic.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
7. 200mmf.	High side to pin 2 (grid) of ECH81 (V3). Low side to chassis.	10.7MC (Unmod.)	FM	90MC	DC probe to point A . Common to chassis.	A12, A13 A14, A15	Adjust for maximum deflection.
8. Fig. 1	Thru dummy to antenna receptacle.	10.7MC	FM	90MC	DC probe to point A . Common to chassis.	A16, A17 A18	Adjust for maximum deflection.
9. Fig. 1	Thru dummy to antenna receptacle.	10.7MC	FM	90MC	DC probe to point B . Common to point A .	A19	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

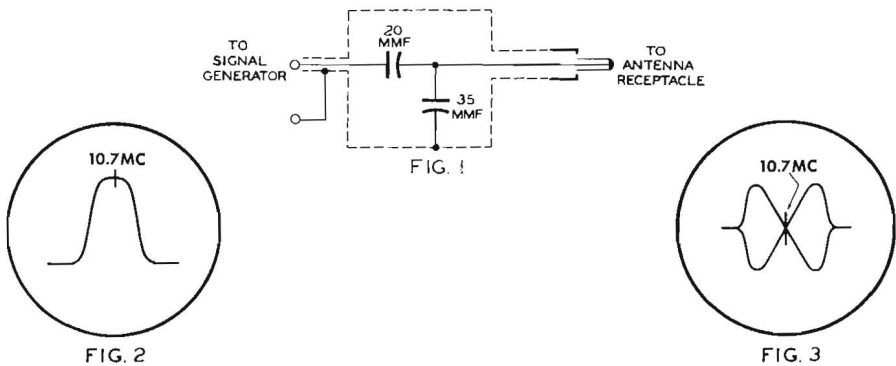
Use frequency modulated signal with 80% modulation and 450KC sweep. Use 120V sawtooth voltage in scope for horizontal deflection.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
7. 200mmf.	High side to pin 2 (grid) of ECH81 (V3). Low side to chassis.	10.7MC (450KC Sweep)	FM	90MC	Vert Amp to point A . Low side to Chassis.	A12, A13 A14, A15	Adjust for curve of maximum amplitude and symmetry similar to Fig. 2
8. Fig. 1	Thru dummy to antenna receptacle.	10.7MC	FM	90MC	Vert Amp to point A . Low side to Chassis.	A16, A17 A18	Adjust for curve of maximum amplitude and symmetry similar to Fig. 2
9. Fig. 1	Thru dummy to antenna receptacle.	10.7MC	FM	90MC	Vert Amp to point B . Low side to Chassis.	A19	Adjust so that 10.7MC occurs at center of crossover lines similar to Fig. 3 SLIGHTLY retouch A12 for maximum amplitude and straightness of crossover lines.

FM RF ALIGNMENT

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
10. Fig. 1	Thru dummy to antenna receptacle.	105MC (Unmod.)	FM	105MC	DC probe to point A . Common to chassis.	A20, A21	Adjust for maximum deflection.
11. Fig. 1	Thru dummy to antenna receptacle.	88MC	FM	88MC	DC probe to point A . Common to chassis.	A22, A23	Adjust for maximum deflection.

With radio installed in car and antenna fully extended, tune in a weak station near 600KC and adjust A7 for maximum volume.



PARTS LIST AND DESCRIPTIONS
TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	FM RF Amp. - FM Conv.	6AQ8/ ECC85	V4	3rd FM-1st AM IF Amp.	EF89
V2	1st FM IF Amp. - AM RF Amp.	EF89	V5	Ratio Det. - AM Det. - AVC-	6T8/ EABC80
V3	2nd FM IF Amp. - AM Mixer	6AJ8/ ECH81	V6	AF Amplifier Output	6BQ5/ EL84
	AM Oscillator				

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	BLAUPUNKT PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1	50	18		PRS25V50	BBR50-25	TC29	TD-50-25	MT-0250	TVA-1206
C2	50	18		PRS25V50	BBR50-25	TC29	TD-50-25	MT-0250	TVA-1206
C3A	32	385		PRS450V3030			TDL-29	MTD-4530	TVA-2735
B	32	385							
C4	50	15		PRS25V50	BBR50-25	TC29	TD-50-25	MT-0250	TVA-1206
C5	50	15		PRS25V50	BBR50-25	TC29	TD-50-25	MT-0250	TVA-1206

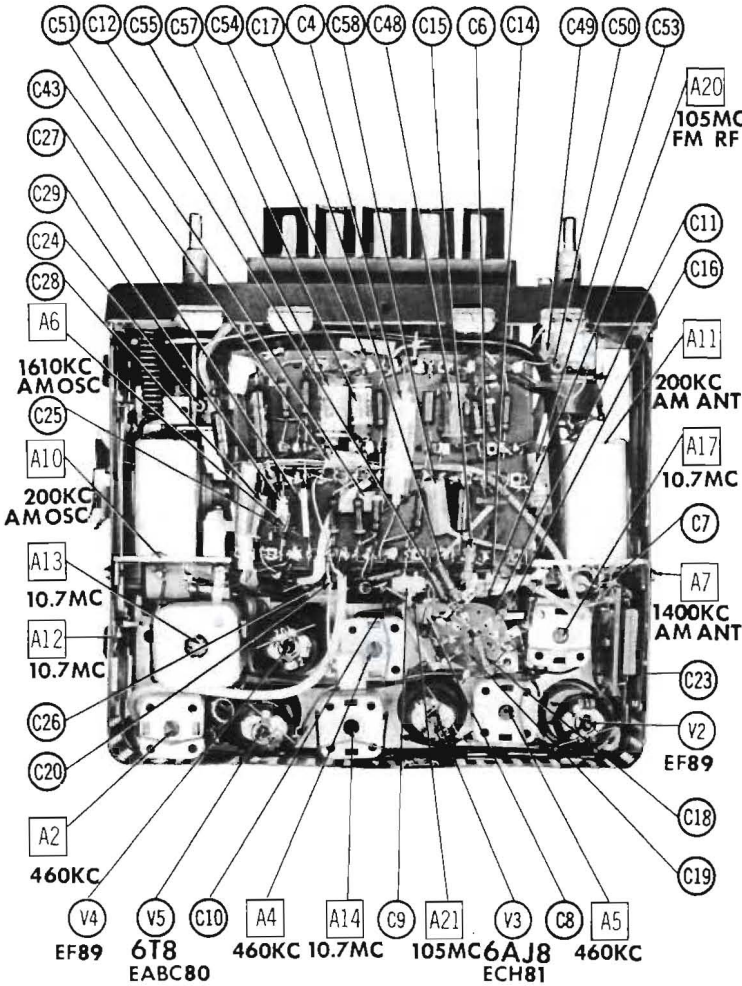
FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						NOTES	
	CAP.	VOLT.	BLAUPUNKT PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.		SPRAGUE PART No.
C6	40									
C7	10-60									
C8	500			BPD-0005	DD-501	LI0T5	ED-500	UC-535	5GA-T5	
C9	2-8									
C10	5000			SI5000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C11	10				TCZ-10			MCE215		
C12	7.5									2%
C13	15			SI15	D6-150	LT6Q15	GP-15	UC-5415	5GA-Q15	1 2%
C14	2-8									
C15	20			SI20	D6-200	LT6Q2	GP-20	UC-542	5GA-Q2	
C16	30			SI30	DD-300	LT6Q3	GP-30	UC-543	5GA-Q3	
C17	175									
C18	5000			SI5000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C19	5000			SI5000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C20	80									
C21	5000			SI5000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C22	300							MCE241		2%
C23	5000			SI5000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C24	5000			SI5000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C25	35									
C26	65									2%
C27	500							MCE245		2%
C28	1000			SI1000	D6-102	LT6D1	GP-1000	UC-521	5GA-D1	
C29	500							MCE245		2%
C30	5000			SI5000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C31	10000			SI10000	D6-103	LT6S1	GP-10000	DC511	5HK-S1	
C32	100				TCZ-100			MCE235		2%
C33	5000			SI5000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C34	5000			SI5000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C35	500			BPD-0005	DD-501	LI0T5	ED-500	UC-535	5GA-T5	
C36	5000			SI5000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C37	10000			SI10000	D6-103	LT6S1	GP-10000	DC511	5HK-S1	
C38	.05	250		P488N-05	DF-503	CUB4S5		GEM-415	4TM-S5	
C39	5000			SI5000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C40	5000			SI5000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C41	5000			SI100	D6-101	LT6Q1	GP-100	UC-531	5GA-T1	
C42	100			SI50	D6-500	LT6Q5	GP-50	UC-545	5GA-Q5	
C43	50			SI50	D6-500	LT6Q5	GP-50	UC-545	5GA-Q5	
C44	1500			SI1500	D6-152	LT6D15	GP-1500	UC-5215	5GA-D15	
C45	5000			SI5000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C46	.5	250		P488N-5	DF-503	CUB4P5		GEM-405	4TM-P5	
C47	5000			SI5000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C48	.05	250		P488N-05	DF-503	CUB4S5		GEM-415	4TM-S5	
C49	5000			SI500	D6-500	LT6Q5	GP-50	UC-545	5GA-Q5	
C50	5000			SI5000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C51	5000			SI5000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C52	70									
C53	.025	250		P488N-025	DF-503	CUB4S22		GEM-4122	4TM-S22	
C54	5000			SI5000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C55	.05	250		P488N-05	DF-503	CUB4S5		GEM-415	4TM-S5	

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CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS (cont)

ITEM No.	RATING		BLAUPUNKT PART No.	AEROVOX PART No.	CENTRALAB PART No.	REPLACEMENT DATA				NOTES
	CAP.	VOLT				CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C56	5000			S15000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C57	.01	250		P488N-01	D6-103	CUB451	GP-10000	GEM-411	4TM-S1	
C58	5000			S15000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C59	.05	500		P688N-05	DF-503	CUB6S5		GEM-615	6TM-S5	
C60	5000									
C61	.025	500		P688N-025		CUB6S22		GEM-6122	6TM-S22	
C62	100			S1100	D6-101	LT6T1	GP-100	UC-531	5GA-T1	
C63	100			S1100	D6-101	LT6T1	GP-100	UC-531	5GA-T1	
C64	.5	500		P688N-5		CUB6P5	GP-100	GEM-605	6TM-P5	
C65	100			S1100	D6-101	LT6T1		UC-531	5GA-T1	
C66	.1	500		P688N-1	DF-104	CUB6P1		GEM-601	6TM-P1	
C67	.025	500		P688N-025		CUB6S22		GEM-6122	6TM-S22	
C68	.1	500		P688N-1	DF-104	CUB6P1		GEM-601	6TM-P1	
C69	.1	500		P688N-1	DF-104	CUB6P1		GEM-601	6TM-P1	
C70	100			S1100	D6-101	LT6T1	GP-100	UC-531	5GA-T1	
C71	100			S1100	D6-101	LT6T1	GP-100	UC-531	5GA-T1	
C72	5000			S15000	D6-502	LT6D5	GP-5000	UC-525	5GA-D5	
C73	.05	250		P488N-05	DF-503	CUB455		GEM-415	4TM-S5	

① Some version use 10mmf in this application.

CONTROLS

ITEM No.	RATING		BLAUPUNKT PART No.	CENTRALAB PART No.	REPLACEMENT DATA			INSTALLATION NOTES
	RESISTANCE	WATTS			CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
RIA	1meg							Tone
B	1.3meg							Volume, Tap@250K
C	Switch							

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		BLAUPUNKT PART No.	NOTES	ITEM No.	RATING		BLAUPUNKT PART No.	NOTES
	OHMS	WATT				OHMS	WATT		
R2	100K			Note 1	R26	100Ω			Note 2
R3	1meg				R27	20Ω			
R4	5000Ω				R28	100K			
R5	20Ω				R29	50K			
R6	250K				R30	10K			
R7	3000Ω				R31	200K			
R8	10K	1			R32	100K			
R9	250K				R33	2meg			
R10	50K				R34	10meg			
R11	1600Ω				R35	10meg			
R12	5000Ω				R36	2.5meg			
R13	50K				R37	250K			
R14	100K				R38	50K			
R15	5000Ω				R39	10meg			
R16	16K	2			R40	400Ω			
R17	20K	2			R41	10Ω			
R18	50K				R42	1000Ω			
R19	20K				R43	500K	2		
R20	30K				R44	500Ω			
R21	50K				R45	200Ω			
R22	5000Ω				R46	100Ω			
R23	100K				R47	200Ω	2		
R24	2000Ω				R48	200Ω	2		
R25	2000Ω				R49	50Ω	1		

Note 1. Some versions may use 30K in this application.

Note 2. Not used in 6 Volt version.

TRANSFORMER (VIBRATOR)

ITEM No.	RATING				REPLACEMENT DATA					
	PRI.	SEC. 1	SEC. 2	SEC. 3	BLAUPUNKT PART No.	Holldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	12.6V ② 3.4A Tap ③ 6V ④ 1.9A	240V ③ .056A			TF722/4					

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	TURNS RATIO		BLAUPUNKT PART No.	Holldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
	PRI.	SEC.							
T2	30:	1	TF27/54						

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		BLAUPUNKT PART No.	Meissner PART No.	Merit PART No.	Miller PART No.	Ram PART No.	
L1	FM Ant. Coil						460KC
L2	FM RF Coil						
L3	FM Osc. Coil						
L4	1st FM IF						
L5	AM Ant. Coil						
L6	AM Ant. Coil						
L7	AM Ant. Coil						
L8A	2nd FM IF						
B	IF Trap						
L9	RF Choke						
L10	AM Osc. Coil						
L11	AM Osc. Coil						
L12	3rd FM IF						16-6765
L13	1st AM IF						
L14	Ratio Det.						
L15	2nd AM IF						
L16	Filament Choke						
L17	Filament Choke						
L18	"A" Lead Choke						
L19	Hash Choke						
L20	Hash Choke						
L21	RF Choke						

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FREQUENCY	REPLACEMENT DATA				NOTES
				BLAUPUNKT PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	RADIART PART No.	
M1	Interrupter	12.6V	115%	1 844/52				Used in 12 volt versions
	Interrupter	6.3V	115%	1 844/62				Used in 6 volt versions

RECTIFIERS

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	CURRENT (Measured)		BLAUPUNKT PART No.	FEDERAL PART No.	INTERNATIONAL PART No.	SARKES TARZIAN PART No.	
M2	.056A		B250C125				

FUSES

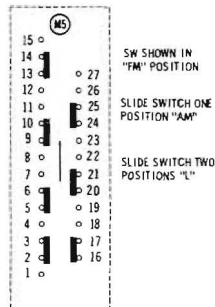
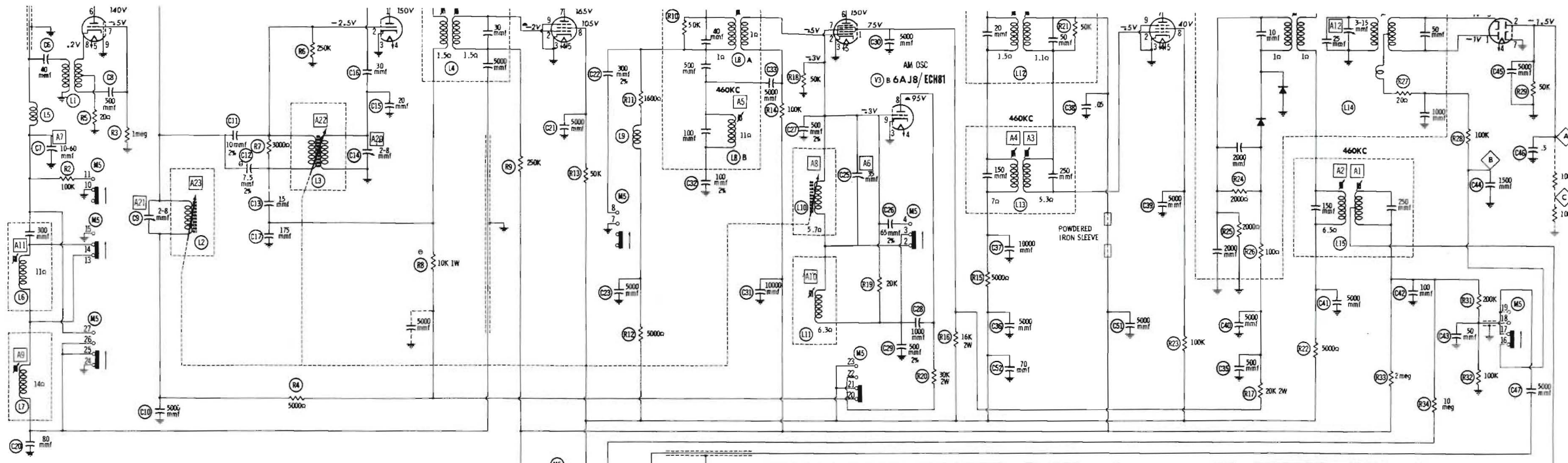
ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			BLAUPUNKT PART No.	LITTELFUSE PART No.	BUSS PART No.	FUSE	HOLDER	
M3		8A						

MISCELLANEOUS

ITEM No.	PART NAME	BLAUPUNKT PART No.	NOTES
M4	Dial Lamp		12-14V .1A (2Volt Versions)
M5	Dial Lamp		6-8V .1A (6Volt Versions)
	Switch		Station Selector and Function Selector

WIRING DATA

General-use Shielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors
Shielded Hook-up Wire	8524 (Stranded) Available in Ten Colors
Bonding Strap	Use BELDEN No. 8885
	Use BELDEN No. 8861



1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of $\pm 15\%$ in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

RESISTANCE READINGS									
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V1	6A08 EC35	110K	250K	0a	2a	1a	15500a	1meg	20a
V2	EF89	0a	250K	0a	0a	1a	0a	16800a	150K
V3	6AJ8 ECH81	116K	100K	0a	2a	1a	15300a	50K	130K
V4	EF89	0a	16a	0a	1a	0a	15300a	1100K	0a
V5	6TR EABC80	1NF	50K	1NF	1a	0a	230K	0a	12meg
V6	6BD5 EL84	NC	500K	600a	2a	2a	NC	1440a	NC

ALL MEASUREMENTS TAKEN IN "FM" POSITION UNLESS OTHERWISE DESIGNATED
 1. MEASURED FROM OUTPUT OF M2
 2. MEASURED IN "AM" POSITION
 NC. NO CONNECTION

SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

